

MILLIMETER WAVE (MMW) TRANSCIVER MODULE  
WITH TRANSMITTER, RECEIVER AND LOCAL OSCILLATOR  
FREQUENCY MULTIPLIER SURFACE MOUNTED CHIP SET

Abstract of the Disclosure

A millimeter wave (MMW) transceiver module includes a microwave monolithic integrated circuit (MMIC) transceiver chip set that is surface mounted on  
5 a circuit board. The MMIC transceiver chip set includes a receiver MMIC chip package, a transmitter MMIC chip package, and a local oscillator (LO) multiplier MMIC chip package. Each MMIC chip package includes a base and a multilayer substrate board formed  
10 from layers of low temperature transfer tape. The multilayer substrate board has at least three layers and carries RF signals, DC signals, grounding and embedded passive components, including resistors and capacitors. At least one MMIC chip is received on the  
15 multilayer substrate board.